

REMARKS

INTRODUCTION

In accordance with the foregoing, claims 1 and 18 have been amended. Claims 14-17 and 19-23 have been cancelled. Claims 1-13, 18 and 24-29 are pending and under consideration.

CLAIM OBJECTIONS

Claim 1 was objected to because of informalities. Appropriate correction has been made to claim 1. Withdrawal of the foregoing objection is requested.

CLAIM REJECTIONS – 35 USC 102

Claim 17 was rejected under 35 U.S.C. § 102(b) as being anticipated by Son et al. (US 5,644,561) (hereinafter "Son").

Claims 24-29 were rejected under 35 U.S.C. § 102(e) as being anticipated by Kim et al. (US 2003/0174617) (hereinafter "Kim").

Son discusses a method of discerning a disc in a compact disc drive. Son includes the steps of moving an optical pick-up device to a table of contents (TOC) region of an optical disk to perform a focusing operation for reading data from the optical disk, and discerning whether an optical disk is loaded on a turntable of the compact disk drive. When the optical disk is loaded in the compact disk drive, the loaded optical disk is rotatably driven by a spindle motor. The time necessary for the rotating speed of the optical disk to reach a predetermined speed is counted, and the counted time is then compared with a predetermined time to determine whether the optical disk is one of a first type having, for example, a eight centimeters diameter and a second type having, for example, a twelve centimeters diameter. If the counted time is less than the predetermined time, the loaded optical disk is determined as an eight centimeter disk. If the counted time is not less than the predetermined time, the loaded optical disk is determined as a twelve centimeter disk. The size of a loaded optical disk is determined based on the recognition that the time necessary for the loaded optical disk to reach a normal rotating speed will differ depending on the weight and thereby the size of the loaded optical disk. Son, Abstract

Kim discusses a method and device for determining disk size and stopping a rotating disk without using FG signals. In Kim, when the disk tray 19 is closed, the controller 27 drives

the sled motor 15 through the driving unit 16 to move the optical pickup 11 to position PB. The position PB on the disk 30 is at or about 5 cm away from the center of a driving shaft of the spindle motor 14 in the radial direction of the disk. At the position PB, the controller 27 turns on an internal laser diode or light source of the optical pickup 11, so that a light beam impinges onto the position PB on the disk 10. Then the controller 27 checks whether or not a valid focusing error (FE) signal whose level is greater than a threshold is detected and output from the RF unit 12. Kim, paragraph [0034] and Figure 3.

Claim 17

Claim 17 has been cancelled.

Claims 24-29

The filing date of Kim (US 2003/0174617) is December 4, 2002. The present application claims the benefit of Korean Patent Application No. 2002-63849, filed on October 18, 2002. The effective date of invention of the present application antedates Kim. As such, Kim is not qualified as prior art under 35 USC 102(e).

Withdrawal of the foregoing rejection is requested.

CLAIM REJECTIONS – 35 USC 103

Claims 1-16, 18 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Okamoto et al. (US 5,696,744) (hereinafter "Okamoto").

Claims 20, 21 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Son in view of Yamada et al. (US 5,831,952) (hereinafter "Yamada").

Claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Okamoto and further in view of Yamada.

Okamoto discusses a disk reproducing apparatus having a disk diameter determining function. The background section of Okamoto discusses several methods of discriminating the diameter of the optical disk. A first method is a reflection type optical sensor such as a photocoupler is arranged at a position outside of the radius of a smaller optical disk when the optical disk is attached to the motor to discriminate the diameter based on the presence/absence of reflected light. A second method is the diameter is discriminated based on the length of the total recording time recorded on an innermost area of the optical disk called a

table of contents (TOC). A third method is the optical disk is driven at a constant torque to discriminate the diameter by counting the activation time required for the number of rotations to reach a predetermined value. A fourth method is the diameter is discriminated by a combination of the second and third methods. Okamoto, 1:37-1:57.

Further in Okamoto, the reproducing head is moved to a position corresponding to the outermost portion of an 8 cm CD and when the light reflected by the CD is present at that position, a discrimination signal representing whether focus control is performed or not is output, so that the disk is determined to be a 12 cm CD when the discrimination signal is outputted and to be an 8 cm CD when no discrimination signal is output. Since the radius of the CD is discriminated by determining whether focus control is performed or not, no cost-increasing extra part is necessary to detect the radius. Okamoto, 3:55-3:67.

Yamada discusses an optical disk thickness discriminating apparatus. In Yamada, an optical disk apparatus comprises a device for moving a focal point of a light beam for reproducing information recorded on an information face of a disk, in the direction perpendicular to the information face; a device for detecting a reflected light from the disk; and a device for discriminating whether the disk set in the apparatus is a disk having a thick base substrate or a disk having a thin base substrate. In this apparatus, a maximum value $AS1L_{max}$ of an output signal from the reflected light detecting device and a maximum value ENV_{max} of an amplitude of an information reproducing signal are detected while driving the focal point moving device so that the focal point passes through the information face, and the discriminating device discriminates whether the disk set in the apparatus is a disk having a thick base substrate or a disk having a thin base substrate, on the basis of the ratio of ENV_{max} to $AS1L_{max}$. Therefore, it is possible to discriminate between a DVD having a thin base substrate and a CD having a thick base substrate. Yamada, Abstract.

Claims 1-5

Amended claim 1 recites: "...detecting a size of the optical disc inserted in an optical disc drive by sensing a weight of the optical disc and driving the optical disc drive..." Claim 1 has been amended to correct an informality, no new matter has been added. In contrast to claim 1, Okamoto does not discuss sensing a weight of the optical disc. Okamoto discusses a method where the optical disk is driven at a constant torque to discriminate the diameter by counting the

activation time required for the number of rotations to reach a predetermined value but nowhere in Okamoto is determining the weight of the disc mentioned as recited in claim 1.

Amended claim 1 further recites: "...if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type and limiting the operational speed level of the optical disc drive." In contrast to claim 1, Okamoto discusses that the disk is determined to be a 12 cm CD when the discrimination signal is outputted and to be an 8 cm CD when no discrimination signal is output. In Okamoto the focus error is not compared to a constant value. As comparing the measured focus error to a constant value is not even mentioned in Okamoto, Okamoto does not teach or suggest this feature of claim 1.

Claims 2-5 depend on claim 1 and therefore believed to be allowable for the foregoing reasons. Further, claims 2-5 recite features that patentably distinguish over Okamoto. For example, claim 4 recites that the certain optical disc type is a fashion disc having a diameter of 8 cm. Fashion discs are not discussed in Okamoto.

Withdrawal of the foregoing rejection is requested.

Claim 6-10

Claim 6 recites: "...a weight detection unit detecting a weight of the optical disc inserted in a disc drive... measuring a focus error, and if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type." Similar to the argument for claim 1, in contrast to claim 6, Okamoto does not discuss a weight detection unit or comparing the measured focus error to a constant value.

Claims 7-10 depend on claim 6 and therefore believed to be allowable for the foregoing reasons. Further, claims 7-10 recite features that patentably distinguish over Okamoto. For example, claim 10 recites that the third disc detection unit detects the optical disc as a certain optical disc predetermined as a fashion disc having a diameter of 8 cm if the measured focus error is below the constant value and as a standard disc having a diameter of 12 cm on which data is partially recorded if the measured focus error is above the constant value.

Withdrawal of the foregoing rejection is requested.

Claims 11-13

Claim 11 recites: "...a weight measure unit that measures a weight of the optical disc; a comparison unit comparing a data recording capacity of the optical disc with a reference value..." Similar to the argument for claim 1, in contrast to claim 11, Okamoto does not discuss a weight measurement unit or a comparison unit.

Claims 12 and 13 depend on claim 11 and therefore believed to be allowable for the foregoing reasons. Further, claims 12 and 13 recite features that patentably distinguish over Okamoto. For example, claim 12 recites a read unit that reads a lead-in area of the optical disc to determine the data recording capacity of the optical disc.

Withdrawal of the foregoing rejection is requested.

Claims 14-16

Claims 14-16 have been cancelled.

Claims 18 and 19

Amended claim 18 recites: "...moving a pickup to a periphery area and measuring a focus error if the data recording capacity is below the reference value..." Support for this amendment may be found in at least original claim 19. Similar to the argument for claim 1, in contrast to claim 18, Okamoto does not discuss measuring a focuserror if the data capacity is below a reference value. Claim 19 has been cancelled.

Withdrawal of the foregoing rejection is requested.

Claims 20-23

Claims 20-23 have been cancelled.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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